

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-7. (Canceled)

8. (New) A method for delivering blood from a heart chamber containing blood to a target vessel of a patient's vascular system, the method comprising steps of:

(a) placing a conduit having a lumen in fluid communication with a heart chamber containing blood;

(b) placing the conduit in fluid communication with the lumen of a target vessel and securing the conduit to the target vessel;

(c) delivering blood from the heart chamber into the conduit during at least one phase of the heart cycle; and

(d) permitting the blood to flow from the conduit into the lumen of the target vessel in more than one direction.

9. (New) The method of claim 8, wherein a portion of the conduit extending between the heart chamber and the target vessel is disposed on an exterior of the patient's heart.

10. (New) The method of claim 8, wherein the conduit is generally T-shaped and includes a first portion having one free end and a second portion having two free ends,

and step (a) is performed by placing the first conduit portion through the myocardium and at least partially within the heart chamber while step (b) is performed by placing the second conduit portion at least partially within the lumen of the target vessel.

11. (New) The method of claim 10, wherein the first conduit portion is formed of a material having sufficient rigidity to avoid collapsing during myocardial contraction when placed according to step (a).

12. (New) The method of claim 11, wherein step (a) is performed prior to step (b), and step (b) is performed by securing the second conduit portion to the target vessel via a substantially suture-free attachment.

13. (New) The method of claim 11, wherein the second conduit portion is passed through a wall of the target vessel and placed at least partially within the lumen of the target vessel without collapsing the second leg of the conduit, and blood flows within the lumen of the target vessel in two opposite directions.

14. (New) The method of claim 11, wherein the target vessel has a lumen that is at least partially obstructed by an occlusion, and the plurality of directions include toward and away from the occlusion.

15. (New) A method for delivering blood from a heart chamber containing blood to a target vessel of a patient's vascular system, the method comprising steps of:

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(a) placing a conduit having a lumen in fluid communication with a heart chamber containing blood;

(b) placing the conduit in fluid communication with the lumen of a target vessel and securing the conduit to the target vessel;

(c) delivering blood from the heart chamber into the conduit during at least one phase of the heart cycle; and

(d) permitting blood to flow out of the conduit unrestricted in more than one direction in the lumen of the target vessel.

16. (New) The method of claim 15, wherein the conduit is disposed along the exterior of the heart.

17. (New) The method of claim 15, wherein the heart chamber contains oxygenated blood and the target vessel is a coronary artery.

18. (New) The method of claim 17, wherein the heart chamber is the left ventricle, and blood flows from the heart chamber into the conduit and into the target vessel during both phases of the heart cycle.

19. (New) A method for placing a target vessel of a patient's coronary vascular system in fluid communication with a heart chamber containing blood, the method comprising steps of:

(a) providing a conduit including first and second portions that are disposed transverse to each other and have lumens in fluid communication, the first conduit portion including at least one inlet and the second conduit portion including at least one outlet;

(b) placing the inlet of the first conduit portion in fluid communication with a heart chamber containing blood to allow blood to enter the lumen of the first conduit portion;

(c) positioning the outlet of the second conduit portion in fluid communication with the lumen of a target vessel at a selected location in the target vessel to allow blood to flow into the lumen of the target vessel from the second conduit portion; and

(d) securing the second conduit portion to the target vessel at the selected location while substantially not moving the second conduit portion along a longitudinal axis of the target vessel.

20. (New) The method of claim 19, wherein the conduit is disposed along an exterior of the patient's heart.

21. (New) The method of claim 19, wherein the second conduit portion of the conduit is secured to the target vessel via a substantially suture-free, end-to-side attachment.

22. (New) A method for deploying a conduit to deliver blood from a heart chamber to a target vessel of a patient's coronary vascular system, the method comprising steps of:

(a) providing a conduit including first and second portions each of which has a lumen, wherein the first and second conduit portions are disposed transverse to each other with the lumens in fluid communication and the second conduit portion is at least partially collapsible;

(b) placing the lumen of the first conduit portion in fluid communication with a heart chamber containing blood;

(c) at least partially collapsing the second conduit portion and positioning the second conduit portion at least partially within the lumen of a target vessel at a selected location in the target vessel; and

(d) expanding the second conduit portion within the lumen of the target vessel at the selected location to secure the second conduit portion to the target vessel in fluid communication therewith.

23. (New) A method for delivering blood from a heart chamber containing blood to a target vessel of a patient's vascular system by placing conduit in the myocardium, the method comprising steps of:

(a) determining a thickness of the patient's myocardium adjacent a heart chamber containing blood;

(b) placing a conduit having a lumen in the myocardium with the lumen of the conduit in fluid communication with the heart chamber containing blood;

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(c) placing the conduit in fluid communication with the lumen of a target vessel and securing the conduit to the target vessel; and

(d) delivering blood from the heart chamber into the conduit and allowing blood to exit the conduit and enter the target vessel in more than one direction.

24. (New) A device for placing a target vessel of a patient's vascular system in fluid communication with a heart chamber containing blood, the device comprising:

a conduit including first and second portions, wherein the first and second conduit portions each have an axis and a lumen through which blood may flow, the axes of the first and second conduit portions being transverse to each other;

wherein the first conduit portion is configured to be placed in fluid communication with a heart chamber containing blood and includes at least one inlet configured to be at least partially positioned in myocardial tissue without collapsing during myocardial contraction;

wherein the second conduit portion is configured to be at least partially positioned within the target vessel and includes at least one outlet adapted to deliver blood to the lumen of the target vessel; and

wherein the inlet of the first conduit portion is more rigid than the outlet of the second conduit portion.

25. (New) The device of claim 24, wherein the first conduit portion is at least partially formed of a rigid, non-compliant material, and the second conduit portion is at

least partially formed of a compliant material.

26. (New) The device of claim 25, wherein the first conduit portion comprises a rigid, metallic member and the second conduit portion comprises a graft vessel.

27. (New) The device of claim 26, wherein the graft vessel is joined to the metallic member and comprises a synthetic vascular graft material.

28. (New) The device of claim 24, further comprising a reinforcing member that extends at least partially along the conduit and provides at least the second conduit portion and the outlet with a desired amount of rigidity.

29. (New) The device of claim 24, wherein the axes of the first and second conduit portions are generally perpendicular such that the conduit is substantially T-shaped, and the first conduit portion corresponds to a first leg of the T having one free end while the second conduit portion corresponds to a second leg of the T having two free ends.

30. (New) The device of claim 29, wherein the second conduit portion is configured such that the outlet may be disposed and secured within the lumen of the target vessel without contacting the entire circumference of the inner vessel wall.

31. (New) The device of claim 29, wherein at least one of the two free ends of

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the second conduit portion is expandable in at least one of an axial direction and a radial direction.

32. (New) The device of claim 24, wherein the first and second conduit portions meet at a junction that is less rigid than the first or second conduit portion.

33. (New) A device for placing a target vessel of a patient's vascular system in fluid communication with a heart chamber containing blood, the device comprising:

a conduit having first and second portions each having a lumen, wherein the first and second conduit portions are disposed transverse to each other with the lumens in fluid communication;

wherein the first conduit portion has a longitudinal axis and is sized and configured to be placed in fluid communication with a heart chamber containing blood;

wherein the second conduit portion has a longitudinal axis and is sized and configured to be placed at least partially within a target vessel in a patient's vascular system to deliver blood to the target vessel, the second conduit portion including first and second ends adapted to be positioned in the target vessel; and

wherein the longitudinal axis of the first conduit portion crosses the longitudinal axis of the second conduit portion at a location that is spaced different distances from the first and second ends of the second conduit portion.

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34. (New) The method of claim 33, wherein the second conduit portion is provided with a selected amount of rigidity so as to be self-supporting yet compliant when in an expanded orientation, while being at least partially deformable to a collapsed orientation for introduction into the lumen of the target vessel.

35. (New) The device of claim 34, wherein the first and second conduit portions meet at a junction, the first conduit portion being more rigid than the second conduit portion.

36. (New) The device of claim 33, wherein the first conduit portion comprises a rigid member configured to be positioned in myocardial tissue.

37. (New) The device of claim 33, wherein the second conduit portion includes a reinforcing member disposed adjacent one of the first and second free ends.

38. (New) The device of claim 33, wherein the second conduit portion has first and second blood outlets.

39. (New) The device of claim 38, wherein the longitudinal axis of the first conduit portion crosses the longitudinal axis of the second conduit portion at a location that is spaced different distances from the first and second blood outlets of the second conduit portion.

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40. (New) The device of claim 33, wherein the conduit is generally T-shaped and the first conduit portion corresponds to one leg of the T having one end while the second conduit portion corresponds to another leg of the T having two ends, and wherein the two ends of the other leg of the T define the first and second blood outlets and are spaced different distances from the one leg of the T.

41. (New) A device for placing a target vessel of a patient's vascular system in fluid communication with a heart chamber containing blood by forming a blood flow path between the target vessel and the heart chamber, the device comprising:

a conduit having first and second portions each of which has an axis, the axes of the first and second conduit portions being transverse to each other;

wherein the first conduit portion has a free end and is configured to be placed in fluid communication with a heart chamber containing blood, and the second conduit portion has two free ends that are sized and configured to be positioned at least partially within the lumen of a target vessel in the patient's vascular system; and

wherein the conduit is formed at least in part of a molded thermoset material having a predetermined amount of flexibility to permit the second portion of the conduit to be flexed for placement within the lumen of a target vessel.

42. (New) The device of claim 41, wherein the first conduit includes a member configured to be placed in myocardial tissue without collapsing during myocardial contraction.

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43. (New) The device of claim 42, wherein the conduit is generally T-shaped and the first conduit portion corresponds to one leg of the T having one free end while the second conduit portion corresponds to another leg of the T having two free ends, and wherein the two free ends of the other leg of the T define first and second outlets adapted to be placed in fluid communication with the lumen of the target vessel.

44. (New) The device of claim 43, wherein the second conduit portion conduit is configured such that the outlets may be disposed and secured within the lumen of the target vessel without the second conduit portion contacting the entire circumference of the inner vessel wall.

45. (New) The device of claim 43, wherein at least one of the two free ends of the other leg of the T is expandable in a radial direction.

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